

ABSTRACT:

0022 An assembly for automatic background color change of a monochrome liquid crystal display comprising a monochrome liquid display, a dichroic guest-host cell, and a backlight device, emitting light in visible region of the spectrum. The devices are arranged in a sequence of, from top to bottom, liquid crystal display, dichroic cell and backlight device. The dichroic cell comprising a single dye or combination of dye, together with liquid crystal molecules, absorbing characteristic wavelengths from the spectrum of the backlight device and transmitting the remaining wavelengths, on application of suitable voltage to the cell. The assembly is integrated to form a single unit in which the three devices namely, liquid crystal display, dichroic cell and white light emitting backlight share at least one substrate with each other. On application of different amplitude of voltage to the dichroic cell, hues of colors as background colors for monochrome liquid crystal display is generated.